

### REMARKS

Claims 1-2, 4-12, and 14-20 are all the claims pending in the application. Claims 3, 13, and 21-25 are canceled without prejudice or disclaimer. Applicants gratefully acknowledge that claims 6-12 and 14-20 have been allowed. Claims 1-2 and 4-5 stand rejected on prior art grounds. Applicants respectfully traverse the rejections based on the following discussion.

#### **I. The Prior Art Rejections**

Claims 1-2 and 4-5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Wei et al. (U.S. Patent No. 6,852,582), hereinafter referred to as "Wei", in view of Unger (U.S. Patent No. 6,777,960), and in further view of Pettit (U.S. Patent Publication No. 2006/0054922), hereinafter referred to as "the Pettit Publication". Applicants respectfully traverse these rejections based on the following discussion.

However, independent claim 1 contains features, which is not taught or suggested in Wei, Unger, or the Pettit Publication, or a combination thereof. Rather, Wei specifically teaches two CNTs with gates 41 and 42 having shared source/drain regions 43 and 44 (see FIG. 4 of Wei). Thus, it is impossible for the structure in Wei to have a CNT spaced apart from a device to be monitored as in the claimed invention due to the existence of the shared source/drain regions.

Nonetheless, page 2 of the Office Action states that in the Pettit Publication, "CNT FET 104 is spaced apart from transistors 108 and 109." However, there is no element 109 in the Pettit Publication. Additionally, based on the language and drawings cited (in the Pettit Publication) in the Office Action, which is being used as the basis for the current rejection, the proper reference date of the Pettit Publication is actually December 30, 2004 which is after the Applicants' filing date of August 20, 2004. In fact, the priority date in the Pettit Publication of December 31, 2003

10/711,083

7

(corresponding to U.S. Provisional Application No. 60/533,151) is not the proper reference date for the purposes of the current rejection.

Upon review of U.S. Provisional Application No. 60/533,151, it is evident that significant portions of the Pettit Publication, which are being used in the Office Action to reject the Applicants' claimed invention, are not fully supported in that particular provisional application. Accordingly, the Applicants contend that the priority date of U.S. Provisional Application No. 60/533,151 should not be considered for the purposes of the current rejection and that the effective reference date of the Pettit Publication should properly be considered as December 30, 2004. Moreover, U.S. Provisional Application No. 60/533,151 should only constitute an effective prior art reference (and its December 31, 2003 filing date) for only those portions that are carried through in the Pettit Publication.

MPEP §706.02(V)(D) states, “[i]f the application properly claims benefit under 35 USC 119(e) to a provisional application, the effective filing date is the filing date of the provisional application for any claims which are fully supported under the first paragraph of 35 USC 112 by the provisional application.” In this case, significant portions of the Pettit Publication lacks full support in U.S. Provisional Application No. 60/533,151.

Furthermore, MPEP §2136.02 generally provides that when a U.S. patent application publication is used to reject claims, “the disclosure relied on in the rejection must be present in the issued patent or application publication.” Accordingly, it is the earliest effective U.S. filing date (December 31, 2003) of the Pettit Publication that is being relied upon in the Office Action that is “the critical reference date” and subject matter not included in the subsequent patent or application publication (i.e., the Pettit Publication) itself can only be used when that subject matter becomes public. Portions of the provisional patent application which were canceled are

not part of the patent or application publication (the Pettit Publication) and thus cannot be relied on in a rejection over the issued patent or application publication. Additionally, “[s]hould it be established that the portion of the patent, or patent application publication, disclosure relied on as the reference was introduced into the patent application... was new matter, the date to be overcome is the date of the [introduction of new matter].” See generally, MPEP §715(III)(A). Therefore, because significant portions of the Pettit Publication were not fully presented in U.S. Provisional Application No. 60/533,151, the effective date of the portions of the Pettit Publication being used as the basis for the current rejection should properly be December 30, 2004, which does not constitute prior art because the Applicants’ filing date (August 20, 2004) predates it.

Upon comparison of the Pettit Publication with U.S. Provisional Application No. 60/533,151, it appears that in the Pettit Publication, the language generally found in pages 2-5 (with some exceptions as noted below) as well as Figures 1 and 2 constitute new matter not taught in U.S. Provisional Application No. 60/533,151. Furthermore, the Office Action specifically refers to specific language in the Pettit Publication contained in Figure 1 and the accompanying text in the specification, by inference, as a basis for rejecting the Applicants’ claimed invention. However, neither Figure 1 nor Figure 2 in the Pettit Publication are disclosed in U.S. Provisional Application No. 60/533,151. Additionally, the thrust of U.S. Provisional Application No. 60/533,151 that is actually carried through in the Pettit Publication is found in the “Description of Related Art” section of the Pettit Publication (page 1, paragraphs [0003] through [0011]). In fact, most of the Pettit Publication (generally pages 2-5, paragraphs [0012] through [0069] with the exception of paragraphs [0026] through [0030], [0042] through [0044], and [0046]) is new matter not previously taught or reasonably discussed in U.S. Provisional

10/711,083

9

Application No. 60/533,151. Moreover, those sections that were taught in U.S. Provisional Application No. 60/533,151, which are also discussed in the Pettit Publication do not teach the Applicants' claimed invention, and more particularly, the Applicants' claims 1-2 and 4-5.

MPEP §2136.03(III) generally provides that the filing date of a provisional application, which is being used as a basis of priority in a U.S. patent or U.S. application publication, is considered to be the critical reference date "if the provisional application(s) properly supports the subject matter relied upon to make the rejection." While, this section of the MPEP is discussing rejections under 35 U.S.C. §102(e), such an analysis extends to the current situation involving a 35 U.S.C. §103(a) rejection, which is presumably based on 35 U.S.C. §102(e). In the current situation, as described above, U.S. Provisional Application No. 60/533,151 does not provide proper support of the subject matter relied upon in the Pettit Publication as a basis for making the current rejection.

Additionally, MPEP §201011(I)(A) states:

Under 35 U.S.C. 119(e), the written description and drawings(s) (if any) of the provisional application must adequately support and enable the subject matter claimed in the nonprovisional application that claims the benefit of the provisional application. In *New Railhead Mfg., L.L.C. v. Vermeer Mfg. Co.*, 298 F.3d 1290, 1294, 63 USPQ2d 1843, 1846 (Fed. Cir. 2002), the court held that for a nonprovisional application to be afforded the priority date of the provisional application, "the specification of the provisional must 'contain a written description of the invention and the manner and process of making and using it, in such full, clear, concise, and exact terms,' 35 U.S.C. §112¶1, to enable an ordinarily skilled artisan to practice the invention claimed in the nonprovisional application." (emphasis in the original)

In this regard, one of ordinary skill in the art would not be enabled to practice the invention in the Pettit Publication based on the teachings in U.S. Provisional Application No. 60/533,151 due to its inadequate written description and drawings. Thus, it is clearly evident

that the rejections for claims 1-2 and 4-5 in the Office Action are based on those teachings in the Pettit Publication, which has an effective date of December 30, 2004 (after the filing date of the Applicants' invention), and which U.S. Provisional Application No. 60/533,151 cannot be properly used as a basis for establishing an earlier priority date for these teachings. Accordingly, the Applicants' claims 1-2 and 4-5 are patentable over a combination of Wei, Unger, and Pettit.

Additionally, with respect to the proposed combination of Wei, Unger, and Pettit, pages 2-3 of the Office Action suggests that such a combination would be obvious to one having ordinary skill in the art. However, the USPTO in classifying these patents has concluded the contrary; i.e., that Wei, Unger, and Pettit are not in the same art field. The USPTO has classified Wei in U.S. Classes 438/195; 438/196; 438/587; and 438/591 with a field of search including 438/142, 195-197, 438/300, 585, 587, and 591. Conversely, the USPTO has classified Unger in U.S. Classes 324/702 with a field of search including 324/71.1, 702, 324/71.5, 71.6, 96, 414, 965, 751, 752, 753; 250/306, 423 R; 423/447.3; 435/6; and 204/157.41. Still conversely, the USPTO has classified Pettit in U.S. Class 257/116. Thus, there are no overlapping classes. Accordingly, one of ordinary skill in the art would not be motivated to combine references from three separate and wholly different art fields as classified by the USPTO in order to try and teach the Applicants' claimed invention. Hence, the proposed combination of Wei, Unger, and Pettit is improper; accordingly claims 1-2 and 4-5 are patentable over Wei, Unger, and Pettit.

Insofar as references may be combined to teach a particular invention, and the proposed combination of Wei with Unger and Pettit, case law establishes that, before any prior-art references may be validly combined for use in a prior-art 35 U.S.C. § 103(a) rejection, the individual references themselves or corresponding prior art must suggest that they be combined.

For example, in In re Sernaker, 217 USPQ 1, 6 (C.A.F.C. 1983), the court stated:

“[P]rior art references in combination do not make an invention obvious unless something in the prior art references would suggest the advantage to be derived from combining their teachings.” Furthermore, the court in Uniroyal, Inc. v. Rudkin-Wiley Corp., 5 USPQ 2d 1434 (C.A.F.C. 1988), stated, “[w]here prior-art references require selective combination by the court to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself. . . . Something in the prior art must suggest the desirability and thus the obviousness of making the combination.”

In the present application, the reason given to support the proposed combination is improper, and is not sufficient to selectively and gratuitously substitute parts of one reference for a part of another reference in order to try to meet, but failing nonetheless, the Applicants' novel claimed invention. Furthermore, the claimed invention meets the above-cited tests for obviousness by including embodiments such as a carbon nanotube field effect transistor (CNT FET) spaced apart from a device to be monitored. As such, all of the claims of this application are, therefore, clearly in condition for allowance, and it is respectfully requested that the Examiner pass these claims to allowance and issue.

As declared by the Federal Circuit:

In proceedings before the U.S. Patent and Trademark Office, the Examiner bears the burden of establishing a prima facie case of obviousness based upon the prior art. The Examiner can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. In re Fritch, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992) citing In re Fine, 5 USPQ 2d 1596, 1598 (Fed. Cir. 1988).

Here, the Examiner has not met the burden of establishing a prima facie case of obviousness. It is clear that, not only does Wei fail to disclose all of the elements of the claims of the present invention, particularly, the CNT FET spaced apart from the device to be

monitored, as discussed above, but also, if combined with Unger and Pettit, fails to disclose these elements as well. The unique elements of the claimed invention are clearly an advance over the prior art.

The Federal Circuit also went on to state:

The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. . . . Here the Examiner relied upon hindsight to arrive at the determination of obviousness. It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. Fritch at 1784-85, citing In re Gordon, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

Here, there is no suggestion that Wei, alone or in combination with Unger and Pettit teaches a structure containing all of the limitations of the claimed invention. Consequently, there is absent the "suggestion" or "objective teaching" that would have to be made before there could be established the legally requisite "prima facie case of obviousness."

In view of the foregoing, the Applicants respectfully submit that the cited prior art references, Wei, Unger, and Pettit, do not teach or suggest the features defined by independent claim 1 and as such, claim 1 is patentable over Wei alone or in combination with Unger and Pettit. Further, dependent claims 2 and 4-5 are similarly patentable over Wei alone or in combination with Unger and Pettit, not only by virtue of their dependency from patentable independent claims, respectively, but also by virtue of the additional features of the invention they define. Thus, the Applicants respectfully request that these rejections be reconsidered and withdrawn. Moreover, the Applicants note that all claims are properly supported in the specification and accompanying drawings. In view of the foregoing, the Examiner is

respectfully requested to reconsider and withdraw the rejections.


## II. Formal Matters and Conclusion

In view of the foregoing, Applicants submit that claims 1-2, 4-12, and 14-20, all the claims presently pending in the application, are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary. Please charge any deficiencies and credit any overpayments to Attorney's Deposit Account Number 09-0456.

Respectfully submitted,

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